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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,363	08/19/2003	Mark Christofis	46107-0102	4832

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EXAMINER

ALEXANDER, MICHAEL P

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/643,363

Applicant(s)

CHRISTOFIS ET AL.

Examiner

Michael P. Alexander

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22 and 24-42 is/are pending in the application.
- 4a) Of the above claim(s) 30-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22 and 24-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim(s) 22 and 24-42 is/are pending.

Election/Restrictions

Newly submitted claims 30-42 are hereby withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 23 November 2005.

Claim Rejections - 35 USC § 112

The rejection of claims 22 and 24-29 are withdrawn in view of the amendment filed on 15 February 2006.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 22 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizokoshi (US 5,098,342) in view of the admitted prior art (see paragraphs 0003-0004 of the instant specification) and further in view of any one of Kramer (US 2,399,551), Benz et al. (US 3,151,002) or Bessey (US 4,746,376).

Regarding claim 22, Mizokoshi teaches (see Fig. 1) an article, comprising a hub, a plurality of angularly spaced trunnion shoulders extending from the hub, each having a trunnion shoulder surface, and a corresponding angularly spaced trunnion extending from each trunnion shoulder, each trunnion having a trunnion axis and a trunnion surface.

Still regarding claim 22, Mizokoshi does not specify that the trunnion surfaces and the trunnion shoulder surfaces would comprise a hardened case, does not specify that the hardened case would be formed by an induction heat treatment and does not specify that a portion of the spider would lack a hardened case.

With respect to the limitation that the trunnion surfaces and trunnion shoulder surfaces would comprise a hardened case in claim 22, applicant admits as prior art (0003-0004) a method of heat treatment to form a hardened case by carburizing on the surfaces of the trunnions in order to provide the strength in the load bearing area of the outer surface, and the necessary toughness and fatigue resistance in the core. It would have been obvious to one of ordinary skill in the art to modify the method of Mizokoshi by applying a heat treatment to form a hardened case by carburizing on the surface of the trunnions in order to provide the strength in the load bearing area of the outer surface, and the necessary toughness and fatigue resistance in the core as admitted.

With respect to the limitation that the hardened case would be formed by an induction heat treatment in claim 22, the Examiner asserts that this is a product-by-process limitation. The Examiner further asserts that the claimed article would be the same as or obvious from the article of Mizokoshi as heat treated by the method of the prior art. See MPEP 2113.

With respect to the limitation that a portion of the spider would lack a hardened case in claim 22, Kramer teaches (col. 1 lines 1-13), Benz teaches (col. 1 lines 11-60) and Bessey teaches (abstract) methods of selective hardening by applying a protective coating to selected areas in order to prevent carburizing hardening of the selective areas. It would have been obvious to one of ordinary skill in the art to modify the method of Mizokoshi in view of the admitted prior art by employing any one of the selective hardening method of Kramer, Benz and Bessey by applying a protective coating to a portion of the spider in order to prevent carburization hardening of the selective portion.

Regarding claim 24, applicant admits (0003) that the method of the admitted prior art would result in a hardened case comprising martensitic microstructure and a core comprising a microstructure that is a mixture of pearlite and ferrite.

Regarding claim 25, applicant admits (0003) that the method of the admitted prior art would result in a hardened case having a hardness of about Rc 58-63 and a core having a hardness of about Rc 15-30.

Regarding claim 26, applicant admits (0003) that the method of the prior art would result in a tempered martensitic microstructure.

Regarding claim 27 and the limitation that the tempered martensitic microstructure would be formed by induction heat treatment, the Examiner asserts that this is a product-by-process limitation. The Examiner further asserts that the claimed article would be the same as or obvious from the article of Mizokoshi as heat treated by the method of the admitted prior art.

Regarding claim 28, applicant admits (0003) that the method of the admitted prior art would result in a tempered martensitic microstructure with a hardness of about Rc 58-63.

Regarding claim 29, applicant admits (0003) that the method of the prior art would result in a depth of the case of about 1-2 mm.

Response to Arguments

Applicant's arguments with respect to claims 22 and 24-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Alexander whose telephone number is 571-272-8558. The examiner can normally be reached on M-F 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

m/q
mpa

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